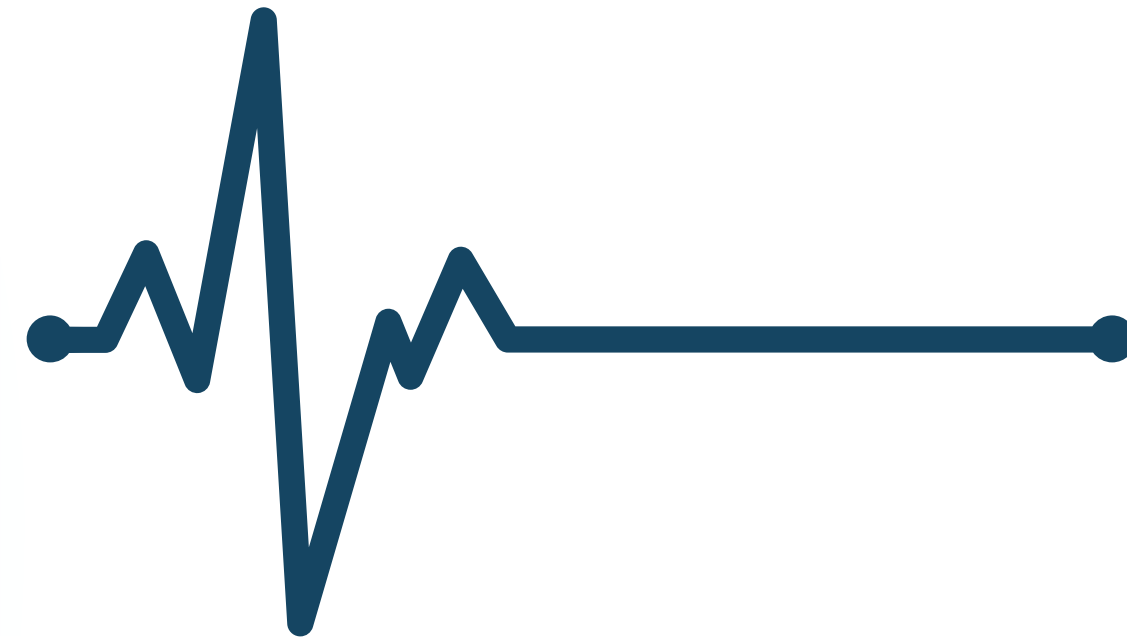




NEOCARE



ENTC

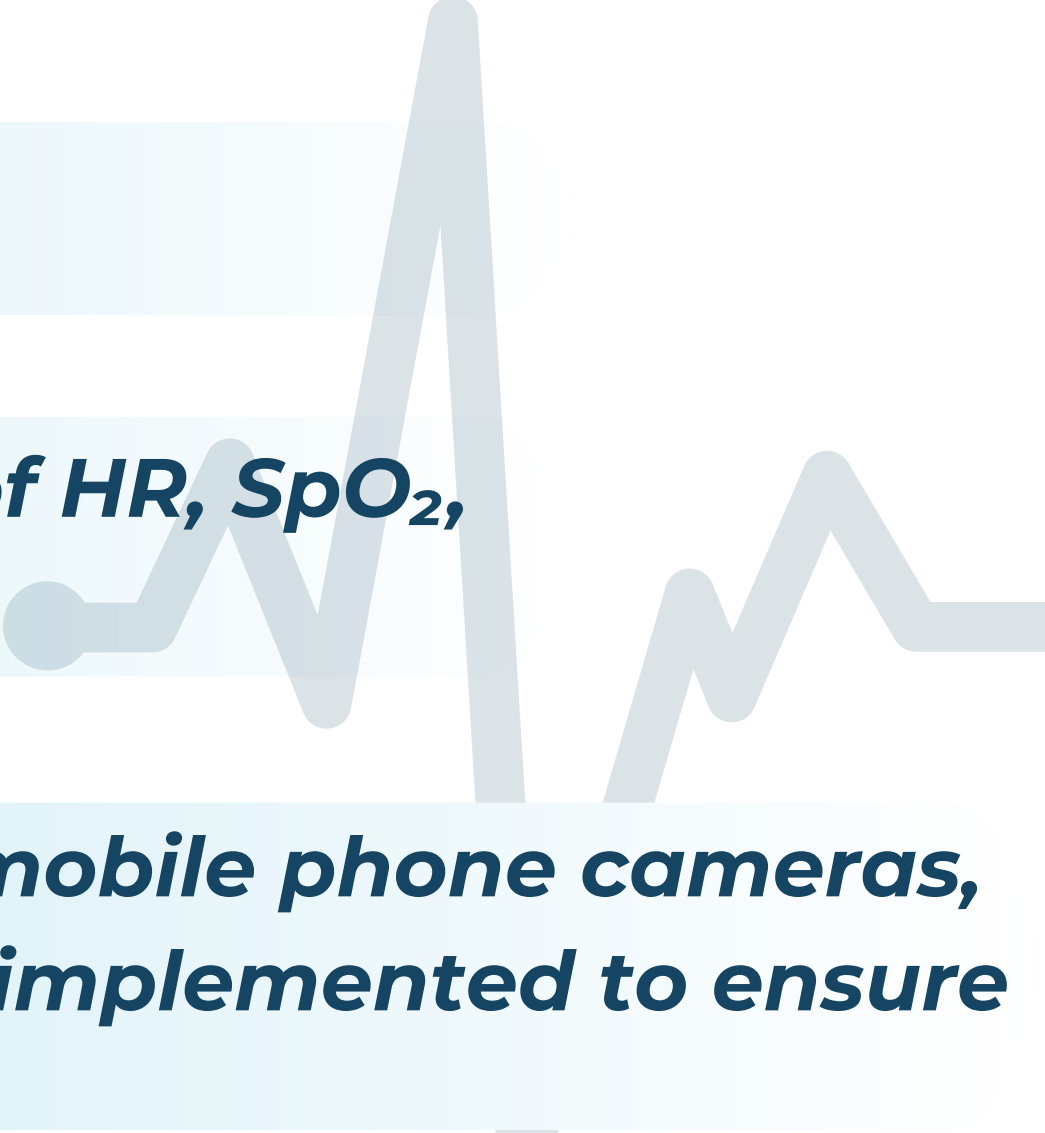
***Department of Electronics
& Telecommunication Engineering
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WHAT LAST YEAR'S TEAM DID?

- *A dataset consisting of neonatal facial videos and corresponding vital signs.*
- *A neonatal heart rate prediction system with low output time. It had the best accuracy among existing methods.*
- *First neonatal SpO₂ prediction system*



WHAT'S NEW IN OUR PROJECT?

- *Improve accuracy of neonatal heart rate, SpO₂ prediction models*
 - *First neonatal Blood Pressure prediction system*
 - *Create a new dataset for neonates*
 - *Develop a mobile App for contactless monitoring of HR, SpO₂, BP while preserving neonatal privacy.*
 - *Since the video recordings will be captured using mobile phone cameras, appropriate privacy-preserving techniques will be implemented to ensure the protection of neonates' personal data.*
- 

EXPERIMENTAL PROCEDURE

- *Under the supervision of medical staff, measure Heart Rate and SpO2 of neonates using a FDA-approved clinical pulse oximeter.*
- *Under the supervision of medical staff, measure Blood Pressure of neonates using ?*
- *Capture a clear view of the neonate using a fixed tripod camera and a mobile phone camera.*
- *Conduct a video recording session of the neonate for around 10-15 minutes.*
- *We hope to take vidoes from 100 neonates.*

OUR DOUBTS

- *Is contactless measurement of neonatal blood pressure really useful in daily medical practice? Would it help the staff or parents ?*
- *Is it practical and safe to measure blood pressure at the same time as heart rate and oxygen levels? Or do you think we should do them separately?*
- *Are there any other important vital signs for neonates that would be good to measure contactless ?*
- *Do you think it is practical to take measurements from 100 neonates in the hospital ? Or should we plan for a different number?*
- *What is the ethical clearance procedure from the hospital for data collection?*